

**REVISION OF AUSTRALASIAN *STERNOLOPHUS* SOLIER
(COLEOPTERA: HYDROPHILIDAE)**

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The Australasian members of the hydrophilid genus *Sternolophus* Solier are revised and redescribed and a key to species is given. Three species are recognised: *S. australis* sp. nov., *S. immarginatus* d'Orchymont and *S. marginicollis* (Hope).

The following names are synonymised with *S. marginicollis* (Hope, 1842): *Hydrobius artensis* Montrouzier, 1860 and *Sternolophus tenebricosus* Blackburn., 1888.

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Among the most common of Australasian hydrophilids, especially in the warmer regions, are members of the genus *Sternolophus* Solier. At times in drying river bed pools it is possible to collect hundreds of individuals in a short time. Despite their abundance they have received little attention since d'Orchymont (1912).

Five Australian forms have been named. Of these I consider only two to represent valid species: *S. marginicollis* (Hope, 1842), and *S. immarginatus* d'Orchymont, 1912. I describe a further one, *S. australis* sp. nov. All occur broadly sympatrically across northern and inland Australia. They appear to be absent from the wetter coastal fringes of the south-west and the south-east and from Tasmania. *S. marginicollis* also occurs in New Guinea and New Caledonia. The genus itself consists of about a dozen species found in Africa, tropical Asia and Australasia.

I do not recognise the subgenus (or genus) *Neosternolophus* Zaitzev, 1909 used for the Australian and some African species (Kriech 1924, Smetana 1980), since I have found the main distinction, the extent of emargination of the clypeus, to vary even within species. A full study of all the species in the genus is required before the validity of the generic separation is established.

SYSTEMATICS

The genus *Sternolophus* belongs to the subfamily Hydrophilinae, characterised by a continuous median longitudinal keel on the underside which is prolonged into a spine between the hind coxae. Within the Australasian members of this subfamily, *Sternolophus* is characterised by having the front of the ventral keel notched, the prosternal pillar not hooded to receive the front end of the ventral keel, the basal portions of all femora densely punctate-pubescent, and only four rows of serial punctures

on each elytron *i.e.* lacking the fifth sublateral row of punctures present in most species of other genera. In most species the front margin of the clypeus has a central notch (Fig. 2).

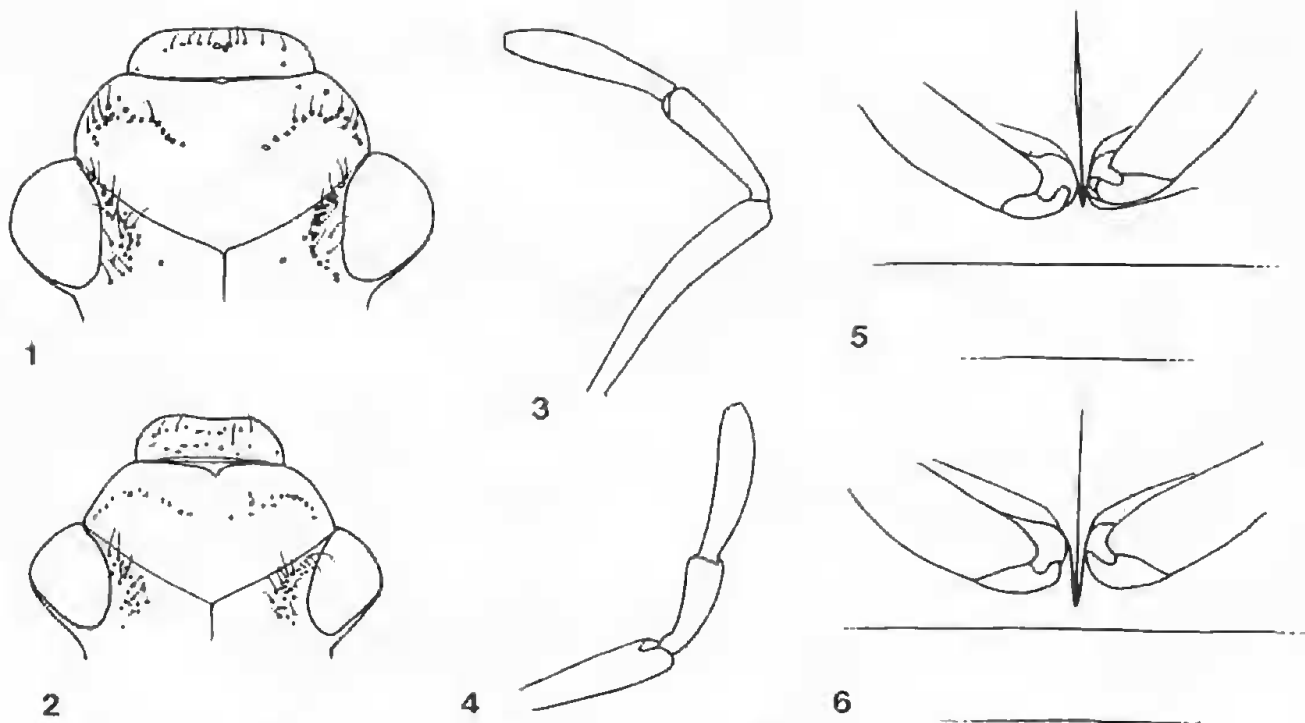
Type species as follows: *Sternolophus*: *S. solieri* Castelnau, 1840, 'Africa'. *Neosternolophus*: *Hydrobius artensis* Montrouzier, 1860, Australia.

The collections from which specimens were examined are listed under the following abbreviations:

AM	Australian Museum, Sydney
ANIC	Australian National Insect Collection, Canberra
BMNH	British Museum (Natural History), London
CW	Private collection of author
RIB	Institut Royal des Sciences Naturelles de Belgique, Bruxelles
NMV	Museum of Victoria, Melbourne
NSWDA	New South Wales Department of Agriculture, Sydney
NTM	Museum and Art Galleries of the Northern Territory, Darwin
MNHP	Museum National d'Histoire Naturelle, Paris
SAMA	South Australian Museum, Adelaide
WAM	Western Australian Museum, Perth
QDPI	Queensland Department of Primary Industries, Mareeba
QM	Queensland Museum, Brisbane.

KEY TO AUSTRALASIAN *STERNOLOPHUS*

- 1 — Sternal spine long, reaching to front edge of third abdominal sternite.....
.....*rufipes* Fabricius*
— Sternal spine not reaching beyond first abdominal sternite.....2



FIGURES 1-6, 1, front of head of *S. australis*; 2, ditto, *S. marginicollis*; 3, labial palpus of *S. marginicollis*; 4, ditto, *S. australis*; 5, apex of sternal spine in *S. immarginatus*; 6, ditto, *S. marginicollis*.

- 2(1) — Maxillary palpi stout, same length as antennae, second segment noticeably shorter than apical (Fig. 4); row of punctures on outer face of protibia 9-10, largest at apex. *australis* sp. nov.
- Maxillary palpi elongate, longer than antennae, second segment almost as long as apical (Fig. 3); more than 15 punctures in a row on outer face of protibia, largest towards base. 3
- 3(2) — Last abdominal sternite entire; sternal spine short, not reaching beyond metatrochanters (Fig. 5). . . . *immarginatus* d'Orchymont
- Last abdominal sternite notched at apex; sternal spine reaching to about middle of first abdominal sternite or beyond (Fig. 6) *marginicollis* (Hope)

*Not yet recorded from region but reaches Java.

***Sternotophus australis* sp. nov.**

Description (number examined 82) (Figs 1, 4)
 Length 11.5-14.5 mm. Oval, black. Head covered in small unevenly sized punctures evenly spread, stronger and denser along rear margin, a group of much larger punctures just inwards from eyes, and a semicircle of large punctures on frons forward from eyes, a few large punctures in line in middle of clypeus. Front margin of frons entire or only very weakly emarginate in centre. Pronotum covered in

fine punctures as on head, each side with two slanting rows of much larger punctures inwards from edge and to about 1/3 width; sharply incised groove just inwards of lateral edge and along front edge to about level of inner margin of eye. Fine punctures on elytra weaker than on head, serial punctures much larger, well-marked, in four lines, punctures uneven in size and distribution, those in inner three striae generally in a single line, those in lateral series widely scattered particularly towards shoulder, a row of small punctures immediately inwards from lateral margin. Sternal carina thin, produced backwards in spine reaching a little way beyond hind coxal plates. Maxillary palpi a little shorter than antennae, stout, apical segment a little longer than penultimate, labial palpi stout, apical segment about half length of penultimate. Outer surface of protibia with row of 12-15 large seta-bearing punctures which, apart from some smaller ones close to knee, are even in size. Apical margin of last abdominal sternite complete.

Male

There is little difference between the sexes. The male has the claws on the front tarsi more sharply bent. Tips of parameres extend beyond tips of aedeagus.

Types

Holotype. M. 'Vaughan Springs, N.T. 4/68. C. Watts', in SAMA.

FIGURE 7. Distribution of *S. marginicollis*.

Paratypes. Same data as Holotype, 6 in SAMA, 15 in CW.

Distribution (Fig. 8)

NT — 19°58'S 129°39'E, ANIC; 13°02'S 133°05'E, QM; Alice Springs, SAMA; 30 miles W Alice Springs, CW; 38 km SSE Alice Springs, ANIC; Edith Falls, ANIC; Gove, NMV; Hart Range, NMV; John Hayes Rockhole E Mac. Rng., SAMA; Kakadu NP, CW; Koongarra, ANIC; 15 miles N Mt Cahill, ANIC; Palm Ck, NMV; Standley Chasm, CW, ANIC; Tallipatta Gorge, NMV.

WA — Carson Escarpment, ANIC; 50 miles S Giles, WAM; Gill Pinnacle, WAM; 10 miles W Halls Ck, WAM; Hammersley Range, WAM; 23 km N Millstream, SAMA; Mitchell Plateau, CW; Pincombe R., WAM; Synnott Rng., WAM; Upper Ord R., SAMA; Walsh Pt., CW; Walter James Rng., WAM; White Mountain, WAM. Wittenoon Gorge, WAM; 26 miles W Wittenoon, ANIC; Wotjulum, WAM.

QLD — Enasleigh R. via Mt Surprise, QDPIM; Kennedy Ck, QDPIM; Laura, QDPIM; Townsville, QM.

SA — Everard Rng., SAMA.

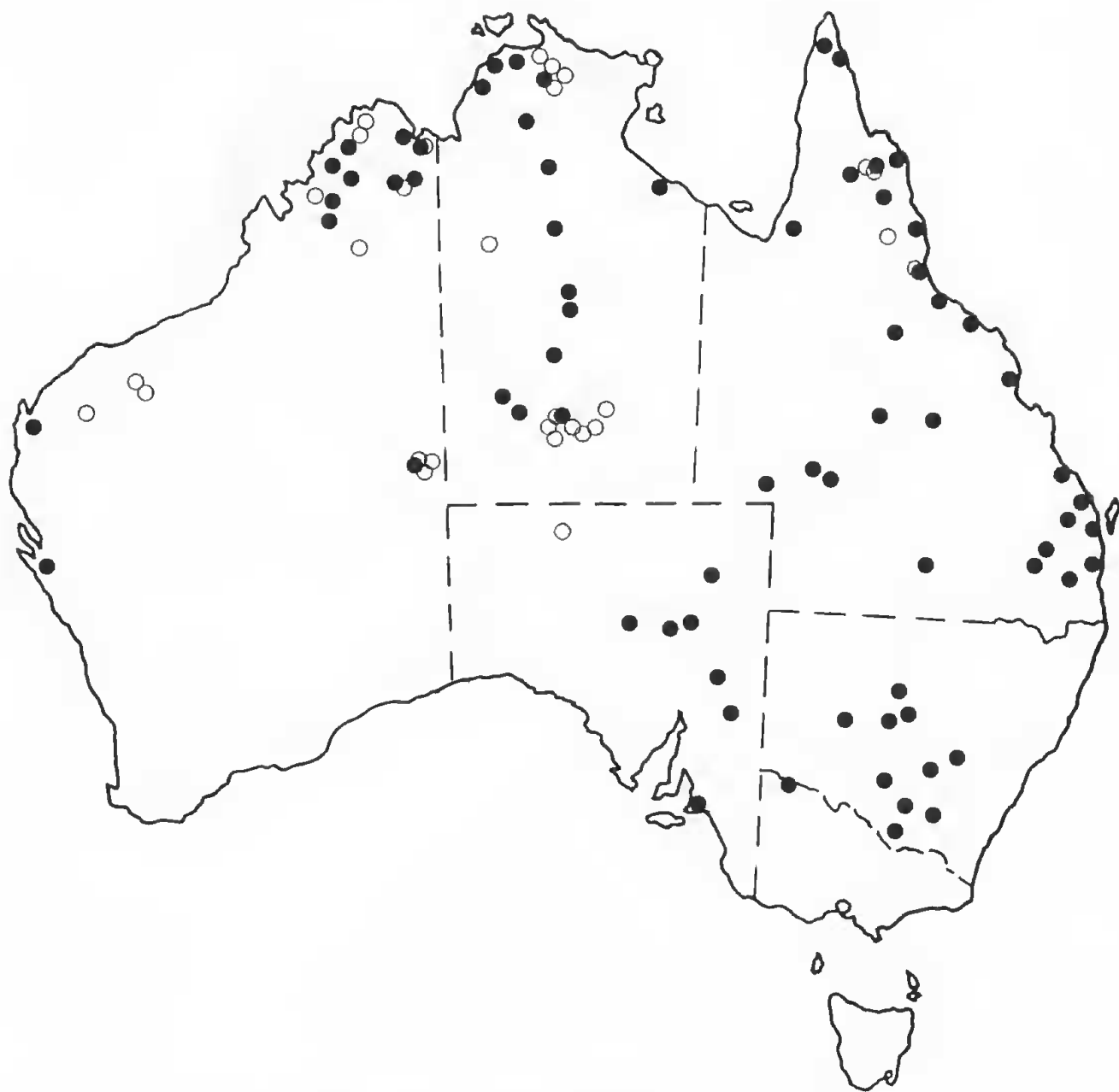


FIGURE 8. Distribution of *S. immarginatus* (●) and *S. australis* (○).

***Sternolophus immarginatus* d'Orchymont**

Sternolophus immarginatus d'Orchymont, 1912, p. 56.

Sternolophus oceanicus Zaitzev, 1910, p. 225, syn. Knisch 1924, p.227.

Description (number examined 261) (Figs 4, 5)

Length 10.6–12.5 mm. Oval, black. Head covered in small but well-marked punctures of variable size, stronger and denser along rear margin, a patch of much larger seta-bearing punctures inward from eye and a ragged semicircle of some 12–15 similar punctures on frons forward of eye, a row of about 12 large seta-bearing punctures together with a scattering of similar punctures towards rear of

clypeus. Front margin of frons emarginate showing yellow membrane beneath, central portion not, or only slightly, triangularly edentate. Punctures on pronotum as on head, a slanting straight line of single large seta-bearing punctures on side near middle and a similar, but curved, row near front margin on each side, well-marked groove along lateral edge extending in much weaker form across front margin. Elytral punctures as on pronotum but somewhat weakened, a row of small punctures along lateral margin with some scattered small elongate punctures inwards. Serial punctures weak, in four rows, punctures erratically placed, those in lateral rows widely scattered. Sternal carina narrow, spine short, blunt, reaching only to about margin of hind coxal plates, mesosternal keel relatively

short with a tuft of very long setae on front angle. Rugose portions on femora weakly restricted to very small area at base. Maxillary palpi elongate, larger than antennae, apical segment same length or slightly longer than penultimate, labial palpi elongate, apical segments slightly more than half length of penultimate. Outer surface of protibia with row of 20-30 seta-bearing punctures, those at base large, becoming progressively smaller towards apex. Apical margin of last abdominal segment complete.

Male

Claws on male protarsi more sharply bent than in female with large basal lobe. Tips of parameres and aedeagus level.

Types

Sternolophus immarginatus d'Orchymont. Holotype. M. 'Northern Territory S. (Neost.) immarginatus, Orch, Type, Dr d'Orchymont Det' in R.I.B. Seen.

Sternolophus oceanicus Zaitzev. Borneo. Type not located, synonymy after Knisch 1924, p. 227.

Distribution (Fig. 8)

QLD — Blackdown Tableland, QM; Brisbane, SAMA; Bundaberg, ANIC; Burnett R., ANIC; Cairns, ANIC, QM; Calliope R., ANIC; 12 km NNW Camerons Corner, ANIC; Carnarvon Rng., AM; Clermont R., ANIC; Cooktown, NMV; Cunnamulla, SAMA; Dalby, SAMA; Eidsvold, QM; Home Hill, CW; Ingham, ANIC QDPIM; Iron Rng., ANIC; 15 km WNW Johnstone R., QDPIM; Kowanyama, QM; Lake Broadwater via Dalby, QM; Laura, QDPIM; Lockyer Valley, SAMA; 31 km NNW Longreach, ANIC; Mackay, CW; Marina Plains, QDPIM; 7 miles S Marlborough NMV; Mary Ck, ANIC; 40 Mile Scrub, NQ, ANIC; Normanton, SAMA; Stewart Rng., SAMA; Townsville, ANIC, QDPIM; Windorah, ANIC; 55 km W by N Windorah, ANIC.

NT — 80 miles NW Alice Sp., CW; 11 km SW Borraloola, ANIC; Daly R., SAMA; Humpty Doo, ANIC, QDPIM; Katherine, NMV, ANIC; Mataranka, ANIC; Nabarlek Dam, SAMA; 17 miles NNE Newcastle Waters, ANIC; Barrow Ck., SAMA; Paton Valley, NMV; South Alligator R., NMV; Tennant Ck, NMV; 15 miles N Tennant Ck., ANIC; Tindal, ANIC; 50 miles N Vaughan Sp., CW; Yuendumu, CW.

NSW — 20 miles SSW Bourke, SAMA; Byrock, ANIC; 65 km W Cobar, NMV; Deniliquin, ANIC; Dubbo, AM; Geelong, NMV; 37 km E Hay, SAMA; Mataranka, ANIC; Trangie, ANIC; Wilcannia, SAMA; Yass, NMV.

SA — Clayton Crossing, SAMA; Coopers Ck

Crossing, SAMA; Deep Creek, SAMA; 20 miles N Koonamore Stn., L. Pinpa, SAMA; Lake Eyre, SAMA; Lake Frome, SAMA; Moomba, NMV; 15 km W Sturt Vale, SAMA.

VIC — Irymple, NMV.

WA — 16°40' S 125°29' E, WAM; Argyle Downs, WAM; Beverley Sp. Stn, WAM; Cane R. HS, ANIC; Drysdale R., ANIC; Fitzroy Crossing, ANIC; Gills Pinnacle, SAMA; Kalumburu, WAM; Kununurra, ANIC; Minilya R., ANIC; Ord River, WAM; Wyndham, ANIC.

Sternolophus marginicollis (Hope)

Hydrobius marginicollis Hope, 1842, p. 428.

Sternolophus marginicollis (Hope), Knisch 1924, p. 227.

Hydrobius assimilis Hope, 1842, p. 428, syn. Knisch 1924, p. 227.

Sternolophus nitidulus Macleay, 1871, p. 129; syn. Knisch 1924, p. 227; d'Orchymont, 1912, p. 56; Blackburn, 1888, p. 814.

Hydrobius urtensis Moitrouzier, 1860, p. 247, syn. nov.; Zaitzev, 1910, p. 225; d'Orchymont, 1912, p. 56.

Sternolophus tenebricosus Blackburn, 1888, p. 813; syn. nov.; Zaitzev, 1910, p. 225; d'Orchymont, 1912, p. 55; d'Orchymont, 1923, p. 420.

Description (number examined 390) (Figs 2, 3, 6)

Length 10.0-13.5 mm. Narrowly oval, black. Head evenly covered with small unevenly sized punctures strongly impressed, much larger and denser along rear margin, a group of large, seta-bearing punctures just inwards from eye, uneven semicircle of about 15 large seta-bearing punctures on frons forward from eyes, a row of about 15 similar punctures along rear of clypeus; front margin of frons emarginate exposing underlying membrane, central portion of margin more deeply incised in broad triangular shape. Pronotum covered in punctures similar to but a little smaller than those on head, each side with two slanting rows of large seta-bearing punctures, rows usually more than one row of punctures thick. Sharply incised groove adjacent to lateral margin and a weaker groove along front margin very weak or lacking in central portion. Elytron with scattered very small punctures, setose serial punctures, in four rows, distribution of punctures along rows uneven, those in inner three rows more or less in one line, those in lateral stria widely scattered particularly towards shoulder, a row of small punctures along extreme lateral margin of elytron with scattered elongate punctures of roughly the same size immediately inwards from them along elytron except humeral angle. Sternal carina quite stout for genus, particularly mesosternal portion, spine quite large reaching well beyond edge of coxal plate, reaching

nearly to second abdominal segment, and usually ending in sharp point. Outer surface of protibia with a row of 14-30 small seta-bearing punctures which tend to get smaller towards apex. Apical margin of last abdominal segment with small notch in middle.

Male

Claw on male protarsi more sharply bent than in female. Tips of parameres level with tip of aedeagus.

Types

Hydrobius marginicollis Hope. Port Essington. Holotype (by monotypy) in Hope Department of Entomology, University of Oxford. Seen.

Hydrobius assimilis Hope. Port Essington. Holotype (by monotypy) in Hope Department of Entomology, University of Oxford. Seen.

Hydrobius artensis Montrouzier. There are three specimens in Bedel's collection now in MNHP from New Caledonia labelled 'Hydrobius Artensis/Montrouzier Nlle Caled', one of which bears a 'type' label. I hereby designate the specimen bearing the 'type' label as lectotype. Seen.

Sternolophus nitidulus Macleay. Four syntype specimens in ANIC on permanent loan from MacLeay Museum labelled 'Gayndah'; 1 specimen in SAMA labelled 'Gayndah Queensland Masters' with a SAMA label in Lea's handwriting 'Sternolophus nitidulus MacL Queensland Coytype'; 2 specimens in AM labelled 'Holotype' which are presumably the two listed by McKeown (1948). I nominate the specimen labelled 'Sternolophus nitidulus McL.W. Burnett River' in AM as the lectotype and the other five specimens paralectotypes. Seen.

Sternolophus tenebricosus Blackburn, N. Territory. Holotype (by monotypy), collected by J.P. Tepper in SAMA. Seen.

Distribution (Fig. 7)

QLD — Ashgrove, QM; Ayr, ANIC; Babinda, AM, SAMA; Bamaga, QM; 20 km S Bloomfield, CW; Bribie I., ANIC; Brisbane, QM; Bundaberg, QM; Cairns, ANIC; Calliope R., ANIC; Cannonvale, ANIC; Canungra Ck, QM; Cape Flattery, QDPIM; Cape Tribulation, QM, QDPIM; 15 km W Captain Billy Ck, QM; 75 km S Cardstone, ANIC; Cardwell, ANIC; Charters Towers, CW; Clermont, AM; Coen, NMV; 40 km N Coen, CW; 60 km S Coen, CW; Cooktown, ANIC; Cooloolo, QM; Daintree, QDPIM; Dalhenty R., CW, QM; 30 km W Fairview, QM; Flying Fish Pt., QM; 18 miles S Gympie, ANIC; Helenslea St., ANIC; Helenvale, CW; Hope Vale Mission, ANIC; Innisfail, ANIC; Iron Rug., ANIC; 15 km WNW S Johnston R., ANIC; Jundah,

ANIC; 2 miles, 5 miles E Kamna, ANIC; Kennedy Ck S of Laura, QDPIM; Kingaroy, ANIC; Kirrama Rng., QM; Kowonyama, ANIC; Kuranda, ANIC, SAMA; 5 miles N Kuranda, ANIC; Lakeland Downs, CW; 12 km N Laura, CW; 70 km N Laura, ANIC; Little Laura R., QDPIM; 3 km E Lockerbie, QM; Malanda, CW; Mareeba, ANIC; 26 km E Mareeba, QM; Marina Plains, ANIC; Mary Ck, ANIC; McIlwraith Rng., QDPIM; 21 miles S Miriam Vale, ANIC; 2 miles W Mission Beach, ANIC; Moa I., QM; Mornington I., SAMA; Mossman, QDPIM, ANIC; 15 km NW Mossman, QM; Mt Cook Nl. Pk., ANIC; Mt Coolum, ANIC; Mt Finnigan, ANIC; Mt Moffat, QM; Mt Tambourine, QM; Mt Webb, ANIC; Musgrave, QM; Old Laura Stn., QDPIM; Peach Ck NQ, CW; Peachester, QM; 40 Mile Scrub, QDPIM; Shiptons Flat, ANIC; Silver Plains Hs, ANIC; Stannary Hills, ANIC; Stanthorpe, QM; Tolga, QDPIM; Townsville, NMV; Tully Falls, QM; Walkamin, ANIC; Yeppoon, AM, ANIC; 9 km SE Yeppoon, ANIC.

NT — 80 miles NW Alice Springs, CW; Bagot Ck, NMV; Berry Sp., ANIC; 45 km SW Borrooloola, ANIC; Cape Crawford, ANIC; Daly R. Mission, ANIC; Darwin, CW, NMV; Ellery Ck, NMV; Glen Helen, NMV; Howard Sp., ANIC; Jim Jim Ck., ANIC, SAMA; Kambolgie Ck, CW; Mataranka, ANIC; McArthur R., ANIC; 19 km NEE Mt Cahill, ANIC; Mudginberry HS, ANIC; Nabarlek Dam, SAMA; 11 km SW Nimbuhah Rock, ANIC; Pine Ck, CW; Stn Alligator R., NMV; Tindal, ANIC; Vaughan Sp., CW; Wessel Isl., ANIC; Yuendumu, CW.

ACT — Black Mt, ANIC.

NSW — Brunswick Heads, ANIC; Bulla Bulla tank, CW; Coffs Harbour, ANIC; Corowa, ANIC; Deniliquin, NMV; Dorrigo, ANIC; Eccleston, AM; Gilgandra, CW; Kempsey, QM; Kempsey, SAMA; Mootwingee, ANIC; Orange, ANIC; Pilliga, ANIC; Queanbeyan, ANIC; Stephens Ck, SAMA; Urbenville, QM; Vallery, ANIC; 12 km N Woodenbong, QM.

VIC — Dimboola, ANIC; Echuca, NMV; Eskdale, NMV; Irymple, NMV; Kulkyn, CW; Little Desert, SAMA; Nagambie, ANIC.

WA — 24°20' S 116°50' E, WAM; 23 km WSW Barradale, ANIC; 17 km N Cane R. HS, ANIC; Eginbali, WAM; Kununurra, ANIC; Millstream, ANIC; 13 km NE Newman, ANIC; Toodyay, ANIC; Warburton Rng., SAMA; Warne R., WAM; Wotjulum, WAM.

SA — Coopers Ck Crossing, SAMA; Frome R., SAMA; 185 km S Radium Hill, SAMA; Renmark, ANIC; 24 km N Mt Serle, SAMA.

PNG — Amboin, ANIC; Bulolo, ANIC; Finsch Haven, SAMA; Goroka, ANIC; Mt Gyilrie, SAMA; Nemasado, CW; Pt Moresby, SAMA; Utai,

ANIC; NE Wau, ANIC; Wau, ANIC.
New Caledonia — Grotte de Ninnin-Rev, SAMA.

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